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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LYONS, MICHAEL A

ART UNIT PAPER NUMBER

2877

DATE MAILED: 09/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/705,447

Applicant(s)

NICOLAE, MIRON

Examiner

Michael A. Lyons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION***Information Disclosure Statement***

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: the number 1 is used to describe the interferometer in the description for both Figures 2A and 2B. Further, the specification alludes to an adjustable spacer A for both Figures 2A and 2B. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daval (3,758,194) in view of Salgo (3,551,051).

With regard to claim 1, Daval discloses (Fig. 1) a first flat substrate 11 and a second substrate 12. While the coefficient of reflection of these plates is similar, it is well known to change the coefficient of one substrate so its coefficient is higher than that of the first substrate. Daval also discloses an optical medium 10 between the substrates. Daval fails to disclose, however, a wave guide and an optical converging element.

As for the wave guide, using a fiber optic as a guiding device as disclosed in the application is notoriously well known in the art.

As for an optical converging element, Salgo shows (Fig. 4) a lens 160 outside the interferometer to collimate the output beams from the interferometer onto a focused point 162. Even though the lens is not outside the first substrate as claimed, it is a simple matter of rearranging parts of the device; the lens produces the results as claimed, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*. 86 USPQ 70.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add an optical converging lens to the device of Daval as per Salgo to collimate the output beam from the interferometer to a focused point.

With regard to claim 13, the first substrate, second substrate, wave guide, optical medium, and optical converging element are discussed above. In this case, the placement of the

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converging element 162 after the second substrate is disclosed in Salgo (Fig. 4), and no rearrangement is needed. In addition, Daval discloses (Fig. 1) a refractive index adjuster V to change the refractive index of the material between the substrates to the desired index. Daval's device fails to show an adjustable spacer, a displacement transducer, and a controller for monitoring the unable operation of the device.

As for the adjustable spacer, Salgo discloses (Fig. 4) a washer 165 that can have its size adjusted to adjust the spacing between the substrates.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add washers to the device of Daval as per Salgo to facilitate the adjustment of the gap between the substrates of the interferometer.

Regarding the displacement transducer and the controller, these functions can be controlled by computer, and the inclusion of one to the device is well known in the art.

With regard to claim 21, the first substrate, second substrate, wave guide, optical medium, and optical converging element are disclosed above. Setting the gap between the substrates to a length comparable with one wavelength of light, however, was not disclosed. It would be obvious to one of ordinary skill in the art at the time the invention was made to set the substrate gap to approximately one wavelength as it is a matter of design choice.

With regard to claim 33, the first substrate, second substrate, wave guide, optical medium, optical converting element, adjustable spacer, refractive index adjuster, displacement transducer, and controller are discussed above. In this case, the placement of the converging element 162 after the second substrate is disclosed in Salgo (Fig. 4), and no rearrangement is needed. Setting the gap between the substrates to a length comparable with one wavelength of

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light, however, was not disclosed. It would be obvious to one of ordinary skill in the art at the time the invention was made to set the substrate gap to approximately one wavelength as it is a matter of design choice.

As for claims 2, 14, 22, and 34, setting the incidence angle of the incoming light to one degree is well known.

As for claims 3, 15, 23, and 35, Salgo discloses a light collimator 136.

As for claims 4 and 24, Salgo discloses a washer 165 used as an adjustable spacer.

As for claims 5 and 25, Daval discloses a refractive index adjuster V.

As for claims 6, 16, 26, and 36, Salgo discloses a voltage source 167.

As for claims 7, 17, 27, and 37, Daval discloses a voltage source V.

As for claims 8, 18, 28, and 38, making spacer a piezoelectric control voltage device is well known.

As for claims 9, 19, 29, and 39, Daval's voltage source is an electro-optical control voltage device.

As for claims 10 and 30, using a computer for the displacement transducer and the controller for monitoring is well known.

As for claims 11, 20, 31, and 40, adding lenses to the lens of Salgo to make a lens system for optical convergence is well known.

As for claims 12, 32, and 41, the use of an optical fiber for the input aperture of the collimated output light is well known.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 703-305-1933.

The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on 703-308-4877. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0935.

MAL
September 11, 2002



Samuel A. Turner
Primary Examiner